CIRCUITS AND METHODS FOR RECOVERING LINK STACK DATA
UPON BRANCH INSTRUCTION MIS-SPECULATION

ABSTRACT OF THE DISCLOSURE

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A method of performing operations to a link stack including the step of performing a Pop operation from the link stack which includes the substeps of storing a first pointer value to the link stack, the first pointer value being the value of a pointer to the link stack before the Pop operation, and storing a first address including

10   a first tag popped from the link stack. The method further includes the step of performing a Push operation to the link stack which includes the substeps of storing a second address including a second tag being Pushed into the link stack and storing a second pointer to the link stack, the second pointer being the value of the pointer to the link stack after the Push operation. The method additionally provides for the

15   recovering of the link stack following an instruction flush which includes the substeps of comparing the first pointer value and the second value, comparing the first tag and the second tag, and replacing an address at the top of the link stack with the first address when the first and second pointers match and the first and second tags match.